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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,437	08/16/2001	Brian D. Baca	17072US	2909
7590	03/16/2004		EXAMINER ARNOLD JR, JAMES	
Kenneth D Goodman Williams Morgan & Amerson P C 10333 Richmond Suite 1100 Houston, TX 77042			ART UNIT 1764	PAPER NUMBER

DATE MAILED: 03/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/931,437

Applicant(s)

BACA ET AL.

Examiner

James Arnold, Jr.

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>08162001</u> . | 6) <input type="checkbox"/> Other: _____  |

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hengstebeck (USPN 4,097,544).

Hengstebeck discloses an apparatus capable of injecting steam into a hydrocarbon effluent, the actual injection of steam, and a means for injecting steam into a hydrocarbon effluent in close proximity to the TLE cone and tubesheet. See Column 8, lines 57-68 and Column 9, lines 1-36.

The reference does not disclose an apparatus wherein the injection probe is connected at an angle in a range of about 30 to about 60 degrees to the TLE cone; wherein six injection probes located 60 degrees apart around the circumference of the TLE cone; or wherein the injection probe is located at a distance from the TLE tubesheet in a range of about 12 to about 36 inches.

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The reference does not disclose an apparatus wherein the distribution nozzle, connected to the injection probe, protrudes into the TLE cone by a distance in the range of about 1% to about 10% of the radius of the TLE cone nor an apparatus wherein the injection probe and distribution nozzle protrude into the TLE cone by a distance of about 1% to about 3% of the radius of the TLE cone. The reference does not disclose a method of injecting steam wherein the steam pressure is in a range of about 30 psig to about 150 psig or a method of injecting steam wherein steam flow is in an amount ranging from about 0.5% to about 10% of the flow of the hydrocarbon effluent.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize an apparatus wherein the injection probe is connected at an angle in a range of about 30 to about 60 degrees to the TLE cone; wherein six injection probes located 60 degrees apart around the circumference of the TLE cone; or wherein the injection probe is located at a distance from the TLE tubesheet in a range of about 12 to about 36 inches because an injection probe located in close proximity to the TLE tubesheet or cone and multiple injection probes allow for greater steam distribution. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize an apparatus wherein the distribution nozzle, connected to the injection probe, protrudes into the TLE cone by a distance in the range of about 1% to about 10% of the radius of the TLE cone or an apparatus wherein the injection probe and distribution nozzle protrude into the TLE cone by a distance of about 1% to about 3% of the radius of the TLE cone because this allows for greater steam distribution. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a method of injecting steam wherein the steam pressure is in a range of about 30 psig to about

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150 psig or a method of injecting steam wherein steam flow is in an amount ranging from about 0.5% to about 10% of the flow of the hydrocarbon effluent because this allows for greater steam distribution.

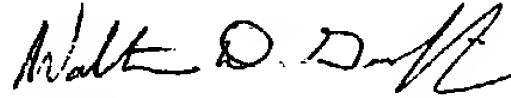
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Arnold, Jr. whose telephone number is 571-272-1443. The examiner can normally be reached on Monday-Thursday 8:30 AM-6:00 PM; Fridays from 8:30 AM-5:00 PM with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ja  
March 5, 2004

  
**Walter D. Griffin**  
**Primary Examiner**